

## EMR MODEL TABLE

SPECIFICATION	OUTPUT VOLTAGE	OUTPUT CURRENT		CURRENT LIMIT		CHARACTERISTIC	RIPPLE ENVELOPE, SOURCE & SWITCHING		NOISE (SPIKE)	EFFICIENCY
				SETTING						
Unit	Volts	Amps		Amps			mV		mV	Percent
Condition	Factory set <sup>(1)</sup>	0-50°C		25°C nominal			p-p		d-c to 15MHz	nominal input maximum load
		min	max	typ	max		typ	max	p-p max	typ
<b>EMR 100K (22 WATTS)</b>										
Output #1	+5	1.0	3.0	3.1	6.0	Foldback	50	100	2% $E_o$ +50	66%
Output #2	+12	0	0.3	0.5	1.2		50	200		
Output #3	-12	0	0.3	0.5	1.2		50	200		
<b>EMR 200K (42 WATTS)</b>										
Output #1	+5	1.0	3.0	3.1	6.0	Foldback	50	100	2% $E_o$ +50	70%
Output #2	+12	0.4	2.0	2.2	4.0		50	200		
Output #3	-12	0	0.3	0.5	1.2		50	200		
<b>EMR 300K (54 WATTS)</b>										
Output #1	+5	2.0	6.0	6.3	8.4	Rectangular	50	100	2% $E_o$ +50	75%
Output #2	+12	0.2	1.0	1.1	1.6		50	200		
Output #3	-12	0.2	1.0	1.1	1.6		50	200		
<b>EMR 500K (80 WATTS)</b>										
Output #1	+5	2.0	5.0	5.2	7.0	Rectangular	50	100	2% $E_o$ +50	78%
Output #2	+12	0.4	2.3	2.5	3.5		50	200		
Output #3	-12	0	0.3	0.5	1.2		50	200		
Output #4	+24	0.2	1.0	1.1	2.0		50	200		

(1) Nominal input, maximum load, 25°C

## EMR INPUT CHARACTERISTICS

SPECIFICATION	EMR 100K	EMR 200K	EMR 300K	EMR 400K	EMR 500K	CONDITION
Voltage range	85-132 or 170-264V a-c; 240 to 370V d-c					Jumper selectable (1)
Brownout voltage	75/150V a-c; 210V d-c					115/230V a-c
Current	0.7/0.4A	1.4/0.7A	1.7/0.9A	1.7/0.9A	2.5/1.3A	115/230V a-c
Fuse value	1.2A	2.5A	2.5A	2.5A	3.15A	
Initial turn-on surge, first ½ cycle max	45 A					25°C cold start, nom. input, max. load
Frequency	50/60Hz nominal; range 47-440Hz(2)					Single phase
EMI	Meets conducted noise standard of FCC 20780, Class B					
Soft-start circuit	Power thermistor					
Leakage current	typ					Std. (3)
	max					
Startup time	500msec max					Std. (3)
Holdup time	20msec min					Std. (3)
Circuit type	Flyback	Flyback	Forward converter	Forward converter	Forward converter	
Switching frequency	25KHz(4)	25KHz(4)	50KHz	50KHz	50KHz	Nom. input, rated load

(1) For d-c, set selector at "230"

(2) At 440Hz the leakage current does not meet UL safety specification limits

(3) Std. conditions = nominal input, maximum load, 25° C

(4) Varies with load and input

## EMR OUTPUT CHARACTERISTICS

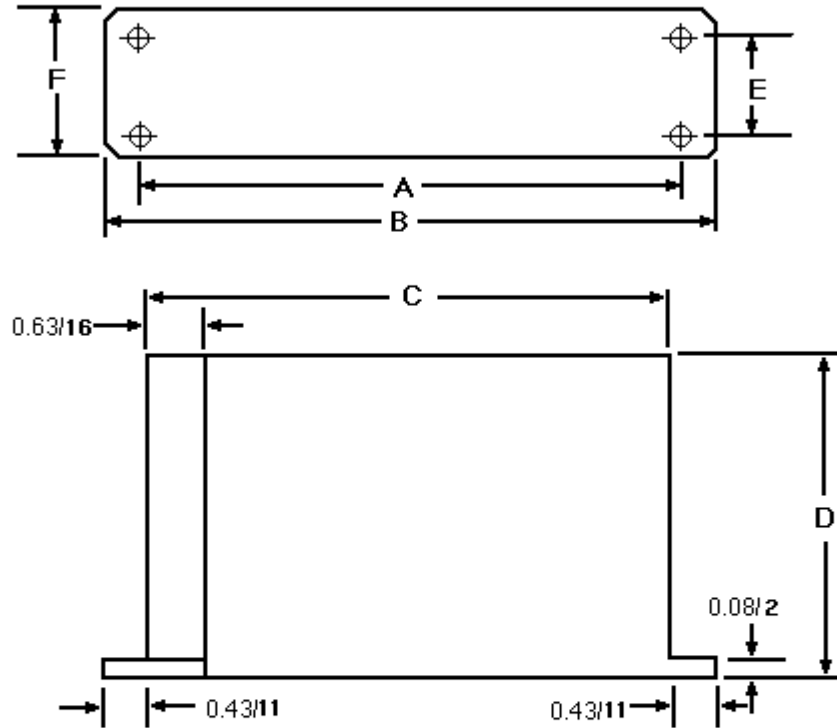
SPECIFICATION		EMR 100K	EMR 200K	EMR 300K	EMR 400K	EMR 500K	CONDITION
Source Effect	Output #1	<1.5%	<1.5%	<1.0%	<1.0%	<1.0%	Minimum to maximum input
	Output #2	<0.5%	<1.0%	<1.0%	<1.0%	<1.0%	
	Output #3	<1.5%	<1.5%	<1.0%	<1.0%	<1.0%	
	Output #4	—	—	—	<1.0%	<1.0%	
Load Effect	Output #1	<3.5%	<3.5%	<1.5%	<1.5%	<1.5%	Minimum to rated load
	Output #2	<1.0%	<5.0%	<5.0%	<6.0%	<5.0%	
	Output #3	<1.0%	<1.0%	<5.0%	<1.0%	<1.0%	
	Output #4	—	—	—	<6.0%	<5.0%	
Time Effect (drift)	0.5% max						0.5-8.5 hr, maximum load, 25°C
Combined Effect (source load & time)	Output #1	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%	Minimum to maximum output
	Output #2	±5.0%	<+7.0%-4.0%	<+4.0%-7.0%	<+4.0%-7.0%	<+4.0%-7.0%	
	Output #3	±5.0%	±5.0%	<+4.0%-7.0%	±5.0%	±5.0%	
	Output #4	—	—	—	<+7.0%-4.0%	<+4.0%-7.0%	
Temperature Effect	3.0% max						Nom. input, rated load, 0-50°C
Recovery Characteristics	Excursion	<4.0%					Nom. input, 25°C; step load change from 50% to 100% of rated load
	Recovery within ±1%	<2msec					
Over voltage Protection (output #1 only)	5.8-6.9V						Nominal input, 25°C

## EMR GENERAL SPECIFICATIONS

SPECIFICATION		RATING/DESCRIPTION	CONDITION
Temperature		0-71°C; from 50°C to 71°C, derate linearly to 30% of rated power	Operating
		-40°C to +75°C	Storage
Humidity		95% RH	Non-condensing Operating & storage
Shock		20g, 3 axes (11 msec ±5msec duration)	Non-operating 3 shocks each axis
Vibration		5-10Hz: 10mm amplitude, 3 axes	Non-operating 1 hour each axis
		10-55Hz: 2g, 3 axes	
Isolation	Output to case	500V d-c, 100MΩ	25°C, 65% RH
Withstand voltage	Input to output	2KV a-c for 1 minute	25°C, 65% RH
	Input to case	2KV a-c for 1 minute	
Safety		UL 478 recognized: CSA C22.2-154 certified	
Type of construction		PC card, enclosed	
Enclosure		Steel	
Cooling		Convection	

Fractional dimensions in light face type are in inches, dimensions in bold face type are in millimeters.

Tolerance:  $\pm 1/64"$  (0.4) between mounting holes;  $\pm 1/32"$  (0.8) other dimensions



MODEL	A	B	C	D	E	F	CONNECTOR (MOLEX)	
							INPUT	OUTPUT
EMR 100K	6.89 <b>175</b>	7.28 <b>185</b>	6.42 <b>163</b>	3.90 <b>99</b>	1.38 <b>35</b>	1.77 <b>45</b>	5277 Series mates with 2139 Series	5275 Series mates with 2139 Series
EMR 200K	8.30 <b>211</b>	8.70 <b>221</b>	7.83 <b>199</b>	3.90 <b>99</b>	1.57 <b>40</b>	1.97 <b>50</b>		
EMR 300K	9.25 <b>235</b>	9.64 <b>245</b>	8.78 <b>223</b>	4.49 <b>114</b>	1.73 <b>44</b>	2.13 <b>54</b>		
EMR 400K	9.25 <b>235</b>	9.64 <b>245</b>	8.78 <b>223</b>	5.08 <b>129</b>	1.73 <b>44</b>	2.13 <b>54</b>		
EMR 500K	10.43 <b>265</b>	10.83 <b>275</b>	9.96 <b>253</b>	5.08 <b>129</b>	1.73 <b>44</b>	2.13 <b>54</b>		

**Tolerances:** 0.04" (1.0mm) unless otherwise noted.

**Mounting:** 0.20" (5.0mm) diameter holes — (4) side.